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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,177	11/06/2001	Yutaka Imamura	81784.0245	9054

26021 7590 03/26/2004
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EXAMINER

AGUSTIN, PETER VINCENT

ART UNIT PAPER NUMBER

2652

DATE MAILED: 03/26/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/040,177

Applicant(s)

IMAMURA ET AL.

Examiner

Peter Vincent M Agustin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. Claim 2 is objected to because "read-in" & "read-out" should be --lead in-- & --lead out--.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2 & 4 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2 & 4 recite the limitations "said first trial writing region" and "the read signal level", respectively. There is insufficient antecedent basis for these limitations in the claims, and it is unclear to what "trial writing region" applicant refers.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claim 1 rejected under 35 U.S.C. 102(b) as being anticipated by Miyata (US 6,052,347).

Miyata discloses a laser output circuit for an optical disk recording apparatus (figures 11 & 12) in which an optical disk (1) is rotated at a constant angular speed (column 2, lines 19-22) and a signal is recorded while the disk is rotated, said laser output circuit comprising: a pickup control circuit (37) for controlling a pickup (35) position at which data is written onto the optical disk; a signal recording circuit (43) for supplying to said pickup data to be written onto said optical disk; a signal level detection circuit (41) for detecting a signal level of the signal read by said pickup; and a laser output setting circuit (45 & 47) for setting a laser output for the writing of data onto the optical disk by said pickup, wherein test data is written onto a trial writing region (figure 6, element 11) on an inner peripheral side of said optical disk and onto an outer peripheral region (15) outside a data writing region (13), the thus written test data is read from the disk, and said laser output is set in accordance with the signal levels of the test data read from both the trial writing region and the outer peripheral region (column 6, lines 18-29).

7. Claim 1 rejected under 35 U.S.C. 102(e) as being anticipated by Honda (US 2002/0003760).

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Honda discloses a laser output circuit for an optical disk recording apparatus (figure 4) in which an optical disk (10) is rotated at a constant angular speed and a signal is recorded while the disk is rotated, said laser output circuit comprising: a pickup control circuit (40) for controlling a pickup (28) position at which data is written onto the optical disk; a signal recording circuit (46) for supplying to said pickup data to be written onto said optical disk; a signal level detection circuit (30, 32, 34, 36 & 38) for detecting a signal level of the signal read by said pickup; and a laser output setting circuit (44) for setting a laser output for the writing of data onto the optical disk by said pickup, wherein test data is written onto a trial writing region (figure 1, S2 & S3) on an inner peripheral side of said optical disk and onto an outer peripheral region (S5 & S6) outside a data writing region, the thus written test data is read from the disk, and said laser output is set in accordance with the signal levels of the test data read from both the trial writing region and the outer peripheral region (S4 & S7).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1 & 3-6 rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto (US 6,618,334) in view of Miyata.

In regard to claim 1, Yamamoto discloses a laser output circuit for an optical disk recording apparatus (figure 1) in which an optical disk (1) is rotated at a constant

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angular speed and a signal is recorded while the disk is rotated, said laser output circuit comprising: a pickup control circuit (5) for controlling a pickup position at which data is written onto the optical disk; a signal recording circuit (13) for supplying to said pickup data to be written onto said optical disk; a signal level detection circuit (14) for detecting a signal level of the signal read by said pickup; and a laser output setting circuit (12) for setting a laser output for the writing of data onto the optical disk by said pickup, wherein test data is written onto a trial writing region on an inner peripheral side of said optical disk (column 5, lines 21-23) the thus written test data is read from the disk (column 5, lines 23-24), and said laser output is set in accordance with the signal levels of the test data read from the trial writing region (column 5, lines 26-28). Yamamoto discloses writing test data onto a trial writing region on an inner peripheral side only; however, Yamamoto does not disclose writing test data onto an outer peripheral region outside a data writing region in addition to writing test data onto a trial writing region on an inner peripheral side of an optical disk.

Miyata discloses writing test data onto a trial writing region (figure 6, element 11) on an inner peripheral side of an optical disk (1) and onto an outer peripheral region (15) outside a data writing region (13), the thus written test data is read from the disk, and the laser output is set in accordance with the signal levels of the test data read from both the trial writing region and the outer peripheral region (column 6, lines 18-29), this method being provided in order to maintain an optimum laser recording power on every region of an optical disk by compensating for variations in linear speed caused by different radii of inner and outer zones, thereby achieving a higher recording accuracy. It

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would have been obvious to one of ordinary skill in the art at the time of invention by the applicant to have configured the device of Yamamoto to write test data onto inner and outer peripheries of an optical disk as suggested by Miyata, the motivation being to achieve a higher recording accuracy.

In regard to claim 3, Yamamoto discloses that the laser output setting circuit sets the laser output based on an inner peripheral side laser output set according to the test data read from the trial writing region (column 5, lines 21-28), and based on information on a recording property of the disk (column 5, lines 34-42). Furthermore, in regard to claim 4, Yamamoto discloses that said test data is written by altering the laser output within a predetermined range (column 5, lines 15-21), and said recording property is determined from the test data based on a relationship between the laser output and the read signal level (column 5, lines 34-42). Furthermore, in regard to claim 5, Yamamoto discloses that prerecorded data (see note below) regarding a recording property of the disk is read from the disk, and said recording property is determined based on the read data (column 5, lines 34-42). It should be noted that "changes in light reflected by the disk" (line 37) are caused by predetermined factors, such as information that is prerecorded on the disk. Yamamoto, however, does not disclose setting the laser output based on an outer peripheral side laser output set according to the test data read from the outer peripheral region.

Miyata discloses a step of setting a laser output based on an outer peripheral side laser output set according to the test data read from the outer peripheral region (figure 13, step 67; see also column 8, line 62 thru column 9, line 12), said step being

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provided in order to maintain an optimum laser recording power on every region of an optical disk by compensating for variations in linear speed caused by different radii of inner and outer zones, thereby achieving a higher recording accuracy. It would have been obvious to one of ordinary skill in the art at the time of invention by the applicant to have configured the laser output setting circuit of Yamamoto to set a laser output based on an outer peripheral side laser output set according to the test data read from the outer peripheral region as suggested by Miyata, the motivation being to achieve a higher recording accuracy.

Furthermore, in regard to claim 6, Yamamoto discloses that an inner peripheral side laser output set from the test data read from the trial writing region is stored in a memory (column 5, lines 15-21). Miyata is silent to whether an outer peripheral side laser output set from the test data read from the outer peripheral region is stored in a memory. However, in light of the memory-storing step of Yamamoto, one of ordinary skill in the art can reasonably conclude that Miyata inherently discloses that the outer peripheral side laser output is also stored in a memory.

10. Claim 2 rejected under 35 U.S.C. 103(a) as being unpatentable over Miyata as applied to claim 1 above, and further in view of Lee et al. (hereafter Lee) (US 6,404,712) or Kim (US 6,646,965).

For a description of Miyata, see the rejection above. Furthermore, Miyata discloses in figure 6 a first trial writing region (11), a program region (13), and an outer peripheral region (15) disposed in order from the inner peripheral side towards the outer

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peripheral side. Miyata does not disclose the presence of a buffer region, a lead-in region, and a lead-out region.

Lee discloses in figure 4 (or Kim in figure 4A) a first trial writing region (PCA), a buffer region (PMA), a lead-in region (lead-in area), a program region (program area), and a lead-out region (lead-out area) disposed in order from the inner peripheral side toward the outer peripheral side. It would have been obvious to one of ordinary skill in the art at the time of invention by the applicant to have added the first trial, buffer, lead-in, program, and lead-out regions of Lee (or Kim) to the disk of Miyata, the motivation being to provide a more accurate test-writing.

11. Claim 2 rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto & Miyata as applied to claim 1 above, and further in view of Lee or Kim.

For a description of Yamamoto & Miyata, see the rejection above. Furthermore, Miyata discloses in figure 6 a first trial writing region (11), a program region (13), and an outer peripheral region (15) disposed in order from the inner peripheral side towards the outer peripheral side. Miyata does not disclose the presence of a buffer region, a lead-in region, and a lead-out region.

Lee discloses in figure 4 (or Kim in figure 4A) a first trial writing region (PCA), a buffer region (PMA), a lead-in region (lead-in area), a program region (program area), and a lead-out region (lead-out area) disposed in order from the inner peripheral side toward the outer peripheral side. It would have been obvious to one of ordinary skill in the art at the time of invention by the applicant to have added the first trial, buffer, lead-

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in, program, and lead-out regions of Lee (or Kim) to the disk of Yamamoto & Miyata, the motivation being to provide a more accurate test-writing.

12. Claims 3-6 rejected under 35 U.S.C. 103(a) as being unpatentable over Miyata as applied to claim 1 above, and further in view of Yamamoto.

For a description of Miyata, see the rejection above. Furthermore, in regard to claim 3, Miyata discloses that the laser output setting circuit sets the laser output based on an inner peripheral side laser output (figure 13, step 63) set according to the test data read from the trial writing region, and an outer peripheral side laser output set according to the test data read from the outer peripheral region (figure 13, step 67) (see also column 8, line 62 thru column 9, line 12). Furthermore, in regard to claim 3, Miyata discloses that said test data is written by altering the laser output within a predetermined range (column 6, lines 18-40). Miyata, however, does not disclose setting the laser output based on an information on a recording property of the disk (claim 3), where said recording property is determined from the test data based on a relationship between the laser output and the read signal level (claim 4), and prerecorded data regarding a recording property of the disk is read from the disk, and said recording property is determined based on the read data (claim 5).

Yamamoto discloses a laser output setting circuit (figure 1, element 12) that set the laser output based on information on a recording property of the disk (column 5, lines 34-42), said recording property is determined from the test data based on a relationship between the laser output and the read signal level (column 5, lines 34-42), and prerecorded data (see note below) regarding a recording property of the disk is

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read from the disk, and said recording property is determined based on the read data (column 5, lines 34-42). It should be noted that "changes in light reflected by the disk" (line 37) are caused by predetermined factors, such as information that is prerecorded on the disk. It would have been obvious to one of ordinary skill in the art at the time of invention by the applicant to have configured the laser output setting circuit of Miyata to set a laser output based on information on a recording property of the disk as suggested by Yamamoto, the motivation being to achieve a higher recording accuracy.

In regard to claim 6, Miyata is silent to whether an inner peripheral side laser output set from the test data read from the trial writing region, and an outer peripheral side laser output set from the test data read from the outer peripheral region are stored in a memory.

Yamamoto discloses that an inner peripheral side laser output set from the test data read from the trial writing region is stored in a memory (column 5, lines 15-21). It would have been obvious to one of ordinary skill in the art at the time of invention by the applicant to have stored the inner and outer peripheral side laser outputs of Miyata to the memory of Yamamoto in order to easily retrieve previously stored data, thereby increasing performance speed.

13. Claim 7 rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto & Miyata as applied to claim 6 above, and further in view of Inaba (JP 58164059 A).

For a description of Yamamoto & Miyata, see the rejection above. However, it is not disclosed that the inner peripheral side laser output set according to the test data read from the trial writing region and the outer peripheral side laser output set according

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to the test data read from the outer peripheral region are deleted from the memory when the disk is replaced.

Inaba discloses (see abstract) clearing the content of a memory when a disk is replaced (whenever a door is opened) in order to free unnecessary data from memory and to obtain sufficient memory space. It would have been obvious to one of ordinary skill in the art at the time of invention by the applicant to have deleted the inner and outer peripheral side laser outputs of Yamamoto & Miyata from the memory when the disk is replaced, as suggested by Inaba. The motivation would have been to free unnecessary data from memory and to obtain sufficient memory space.

14. Claim 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto & Miyata as applied to claim 6 above, and further in view of Toyooka et al. (hereafter Toyooka) (US 4,788,672).

For a description of Yamamoto & Miyata, see the rejection above. However, it is not disclosed that the inner peripheral side laser output set according to the test data read from the trial writing region and the outer peripheral side laser output set according to the test data read from the outer peripheral region are deleted from the memory when a predetermined time elapses after the end of a recording operation.

Toyooka discloses (see abstract) erasing unnecessary data during a period of time when the optical disc memory is not accessed, in order to free unnecessary data from memory and to obtain sufficient memory space. It would have been obvious to one of ordinary skill in the art at the time of invention by the applicant to have deleted the inner and outer peripheral side laser outputs of Yamamoto & Miyata from the memory

when a predetermined time elapses, as suggested by Toyooka. The motivation would have been to free unnecessary data from memory and obtain sufficient memory space.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Koike (US 5,309,419) discloses an apparatus that controls the light amount based on multiple tests performed on a test region on an inner periphery of the disk.

Honda (US 2002/0003760) discloses test recording to both inner and outer peripheral power calibration areas.

Aoshima (US 5,663,941) discloses a recording device with laser power control capable of recording at various recording speeds.

Muramatsu et al. (US 5,592,463) discloses an apparatus for determining the optimum recording power by test recording on a test recording area.

Nishiuchi et al. (US 5,305,297) discloses a method for determining optimum irradiation conditions in optical data recording.

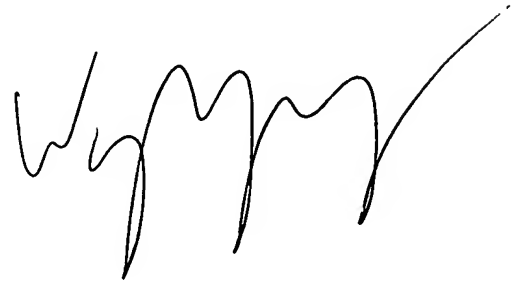
16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Vincent Agustin whose telephone number is (703) 305-8980. The examiner can normally be reached on Monday thru Friday 9AM -5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PVA
03/12/2004

A handwritten signature in black ink, appearing to read 'W. R. Young', with a long, sweeping horizontal stroke extending to the right.

**W. R. YOUNG
PRIMARY EXAMINER**